

SAMPLE PAPER 5: PAPER 1

QUESTION 4 (25 MARKS)

Question 4 (a) (i)

$$a = 5, d = -2$$

$$T_n = 5 + (n-1)(-2) \quad \boxed{T_n = a + (n-1)d}$$

$$= 5 - 2n + 2$$

$$= 7 - 2n$$

Question 4 (a) (ii)

$$T_n = 7 - 2n$$

$$T_1 = 7 - 2(1) = 7 - 2 = 5$$

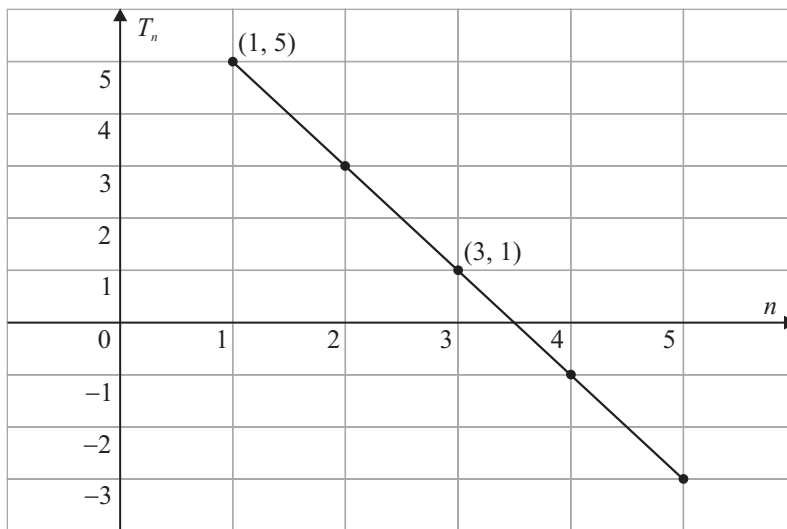
$$T_2 = 7 - 2(2) = 7 - 4 = 3$$

$$T_3 = 7 - 2(3) = 7 - 6 = 1$$

$$T_4 = 7 - 2(4) = 7 - 8 = -1$$

$$T_5 = 7 - 2(5) = 7 - 10 = -3$$

Question 4 (a) (iii)



Question 4 (a) (iv)

Points: (1, 5), (3, 1)

$$m = \frac{y_2 - y_1}{x_2 - x_1} \quad \boxed{m = \frac{y_2 - y_1}{x_2 - x_1}}$$

$$m = \frac{1 - 5}{3 - 1} = \frac{-4}{2} = -2$$

The slope is equal to the common difference.

Question 4 (b)

$$T_n = 4 + \frac{3}{2}n$$

$$T_1 = a = 4 + \frac{3}{2}(1) = \frac{11}{2}$$

$$d = \frac{3}{2} \text{ (slope of the line)}$$